

Bellwork: 12/12/11 - use ANY method

$$\begin{aligned} -3(-2x - y) &= 7(-3) \\ \rightarrow x - 3y &= 14 \quad (-1, -5) \end{aligned}$$

$$\begin{aligned} 6x + 3y &= -21 \\ x - 3y &= 14 \end{aligned}$$

$$7x = -7$$

$$x = -1$$

$$-1 - 3y = 14$$

$$-3y = 15$$

$$y = -5$$

$$7x - 3y = 5$$

$$3y - 7x = 8$$

$$-3y + 7x = 5$$

$$0 = 13$$

NO SOLUTION

INCONSISTENT

☺ The solution of a linear inequality is an ordered pair  $(x, y)$  that satisfies the inequality.

☺ The solution to a linear inequality is a region of the coordinate plane and is called a *half-plane* bounded by a *boundary line*.

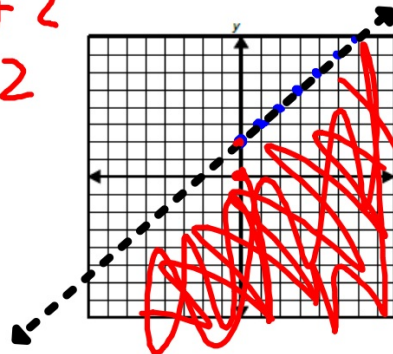
Graph each linear inequality.

1)  $y < x + 2$

$$0 < 0 + 2$$

$$0 < 2$$

$$y < \frac{1}{1}x + \underline{2}$$
$$y = x + 2$$

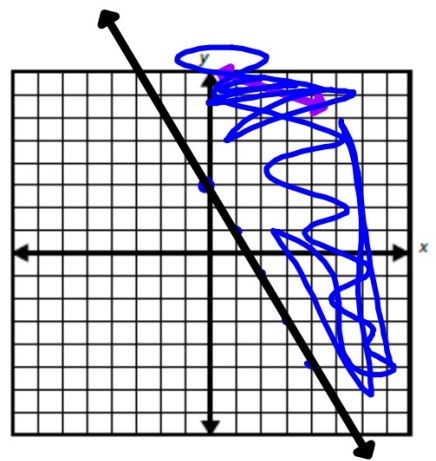


Test point  
 $(0, 0)$

$$2) y \geq -2x + 3$$

$$0 \geq -2(0) + 3$$

$$0 \geq 3 \quad \times$$



$$3) -2x - 3y \leq 3$$

+2x

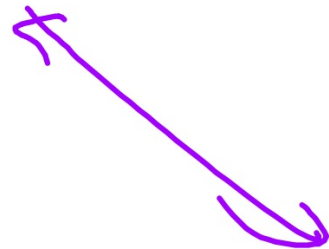
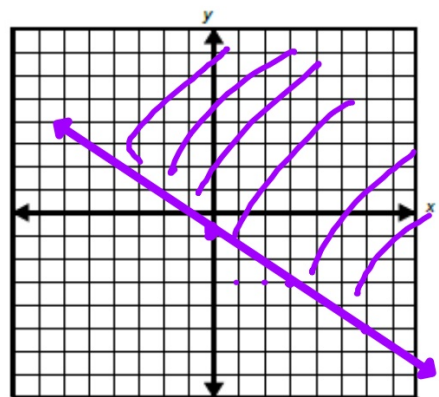
+2x

$-\frac{3}{3}y$

$-\frac{3}{3}y$

y

$-\frac{2}{3}x - 1$



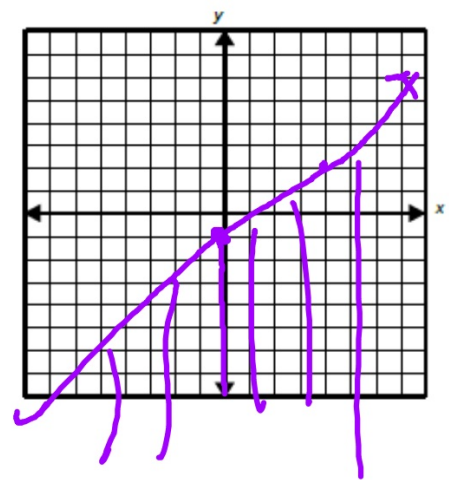
$$4) 3x - 4y \geq 4$$

$$\begin{matrix} -3x & -3x \end{matrix}$$

$$y \leq \frac{3}{4}x - 1$$

$$-4y \geq -3x + 4$$

$$y \leq \frac{-3}{-4}x - 1$$



5)  $x > 2$

